

ILLINOIS W.H. BÉ

Aug 55
LEG 4

249

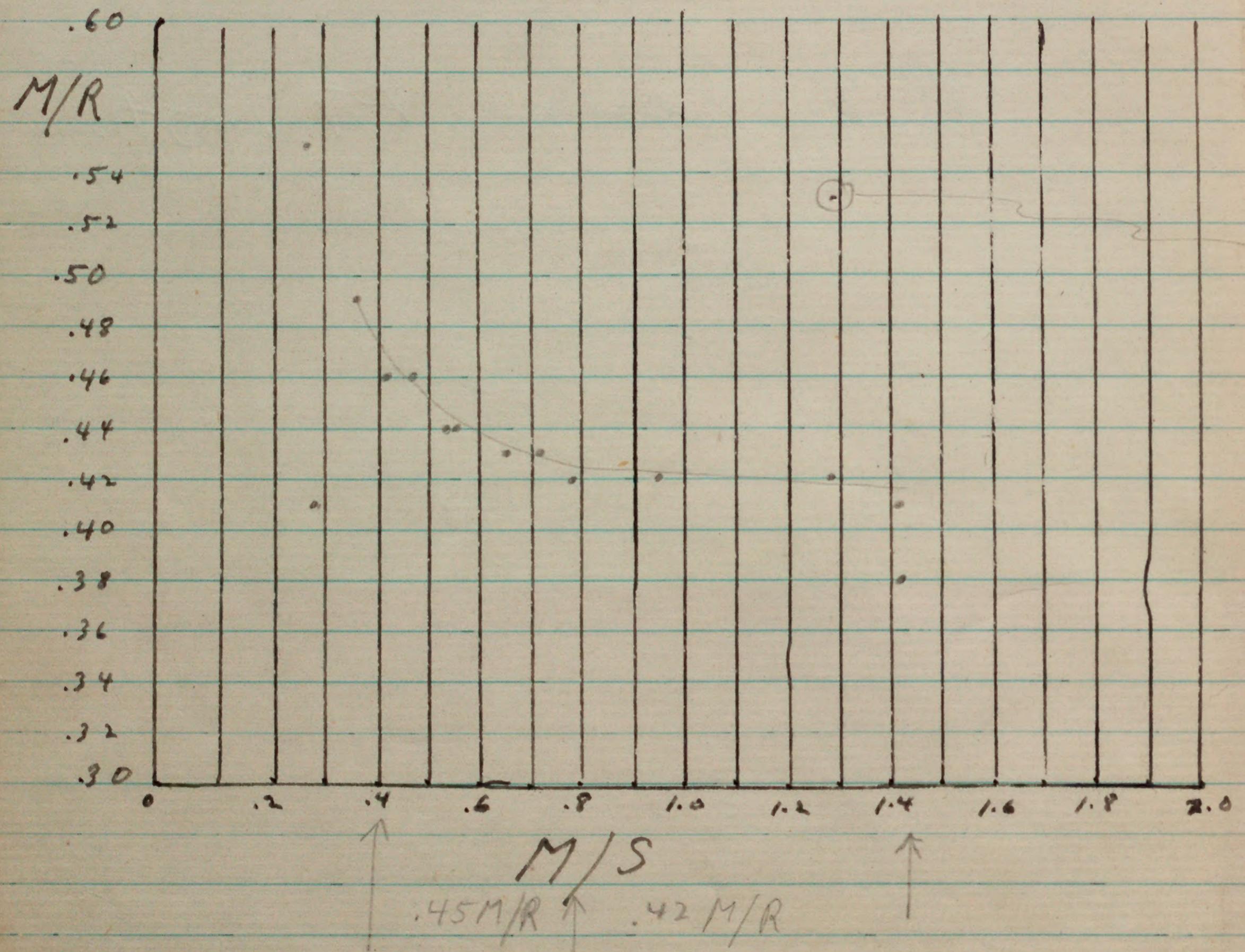
Log of Biological Collections
and Observations

R. V. Verna V-7, Leg 4.

Robert Brein
Lamont Observatory
Palisades, New York

August 3, 1955

Net calibration Aug. 3, 1955 Cont.



$$\therefore \text{use } .44 \text{ M/R} \pm .02 = \pm 5\%$$

$\frac{1}{2}$ M net use 1 M³/min.

Calibration of Clarke-Bumpus meter

Distance towed = 15.5 yards $\pm \frac{1}{2}$ yard or 13%

	Time Up 15 sec.	Revs. Up. 34	Time Down 10 sec.	Revs. Down 37
	→ 11 "	27 (wind may have blown meter)	18 "	34
	22 "	33	20 "	33
	26 "	32	27 "	32
	30 "	31	40 "	29
	35 "	31	50 "	26
	50 "	25	10 "	35
	11 "	34		

15.5 yards = 14.2 meters; no significant difference between up and down

Meters / Sec. vs. Meters per Revolution M/S vs. M/R

.95	.42	1.42	.38
1.29	.53	.79	.42
.65	.43	.71	.43
.55	.44	.53	.44
.47	.46	.36	.49
.41	.46	.28	.55
.28	.41	1.42	.41
1.29	.42		

VERTICAL PROFILE 5 Aug 1955

August 5, 1955

1st messenger speed = $\frac{2.5}{2.8}$ meters/sec.

2nd messenger speed = 2.5 meters/sec

both measured at 20° wire angle
on $\frac{1}{2}$ inch diameter wire

Speed: 2 knots

V7-7

14 net

Time net open 1255 depth 10 fms Enclosed 1305
at 30 fms at each depth for 10 min = 20 min.
Vol. water filtered between 10-30 fms = $1400 \text{ m}^3 \text{ ton.}$

Displacement vol. of plankton = 24 cc

wire L = 20°

Lat.	Long.	Start	Lat	Long	fins
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FORAMS

Species	specimen	size in mm
60 ml dry of 415 ml. sample.		

<i>Globigerina</i> sp.	1	0.5/mm.
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17 ml. dry volume in 1000 m^3

positioned as V7-1

Calibration of ocular micrometer
in AO scope 336951

$$9x : 4.3 \text{ major divisions} = 4 \text{ mm.}$$

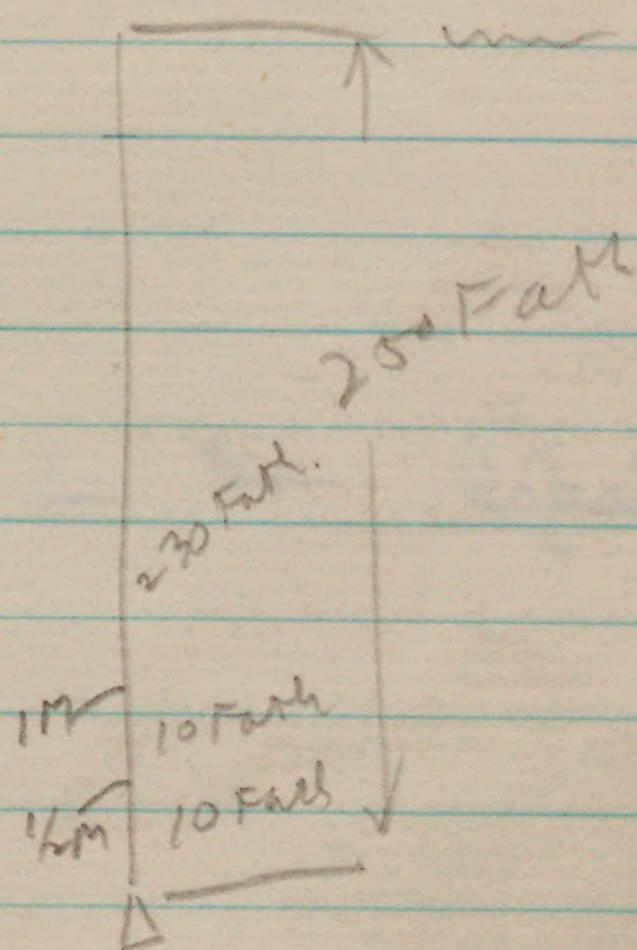
$$27x : 3 \text{ major divisions} = 1 \text{ mm.}$$

$$54x : 6 \text{ major divisions} = 1 \text{ mm.}$$

Depth of Tow

All towed salled 0-300 M were made in
the following manner:

The $\frac{1}{2}$ M net was put on 10 fathoms above the
weight. The 1 M net was put on 10 fathoms above the 1/2 M
net. The mate wheel was zeroed when the
weight was at the surface and a total of 250
fathoms of wire was paid out in the tow. The
nets were left at depth for 2 minutes before
hauling in. Speed of decanted descent was
constant.



200 meters.

August 5, 1955

Sample V7-7 see 3 pages back
1 M net
Depd 20-60 meters
Time 1205-1305 = 10 mins
Wind 20°
Vol. H₂O filtered 700 m³
Displ. vol. = 24 ml.

34 ml displ. vol. in 1000 m³

position same as V7-1

August 5, '55

V7-8 1 M net

Time net open: 1318, depth 50 fms 10 min, closed: 1340, = 22 min.
Depth 100 fms 10 min

Vol. water filtered 1540 m³

Displ. Vol. plankton = 14 cc

Wind 40°

Start	Fins
Lat	Long
Lat	Long.

Lat Long

10 ml. displ. vol. in 1000 m³

position same as V7-1

$\frac{300}{2}$
600 meters

August 5, 1955

V 7-9 1M net

time net open: 1405, depth 150 fms, 10 min, to = 15 min.

300 fms 10 min, closed at 1420 at 300 fms

displ. vol. plankton = 2 cc

wire < 32°

vol. water filtered = 1050 m³

Start	Fms	Lat	Long.
Lat	Long.	Lat	Long.

2 ml. = displ. vol. in 10³ m³

protein same as V 7-1

$\frac{55^{\circ}}{2}$
1100 meters.

August 5, 1955

V7-10 1M net

time open: 1452 at 350 fms, 20 min to
550 fms 20 min, closed 1535 = $\frac{43}{47}$ min.

vol displ. = 25 cc

wave L = 40°

vol water filtered = 3000 m³

20% living when brought up.

8 ml = displ. vol in 103 m³

protozoan in V7-1

$\frac{650}{2}$
1300 meters.

August 5, 1953

V7-11 1 M net

Time open = 1621, at 650 fms, 15 min,
closed 1636 at 650 fms. = 15 min.

wie C = 40°

displ. vol = 2 cc.

vol. water fr. barrel = 1050 ml^3

10% living when caught up.

FORAMS

spp.	no	?	size mm.
globorotalia truncatulinoides	1		0.25 mm
globigerina eggeri	1		0.50 mm

CHAETOGNATHS

Kr. subtilis III in 100% = $3/10^3 \text{ ml}^3$

S. lyria III " 100% = $3/10^3 \text{ ml}^3$

S. macrocephala I in 100% = $1/10^3 \text{ ml}^3$

S. sp. ?

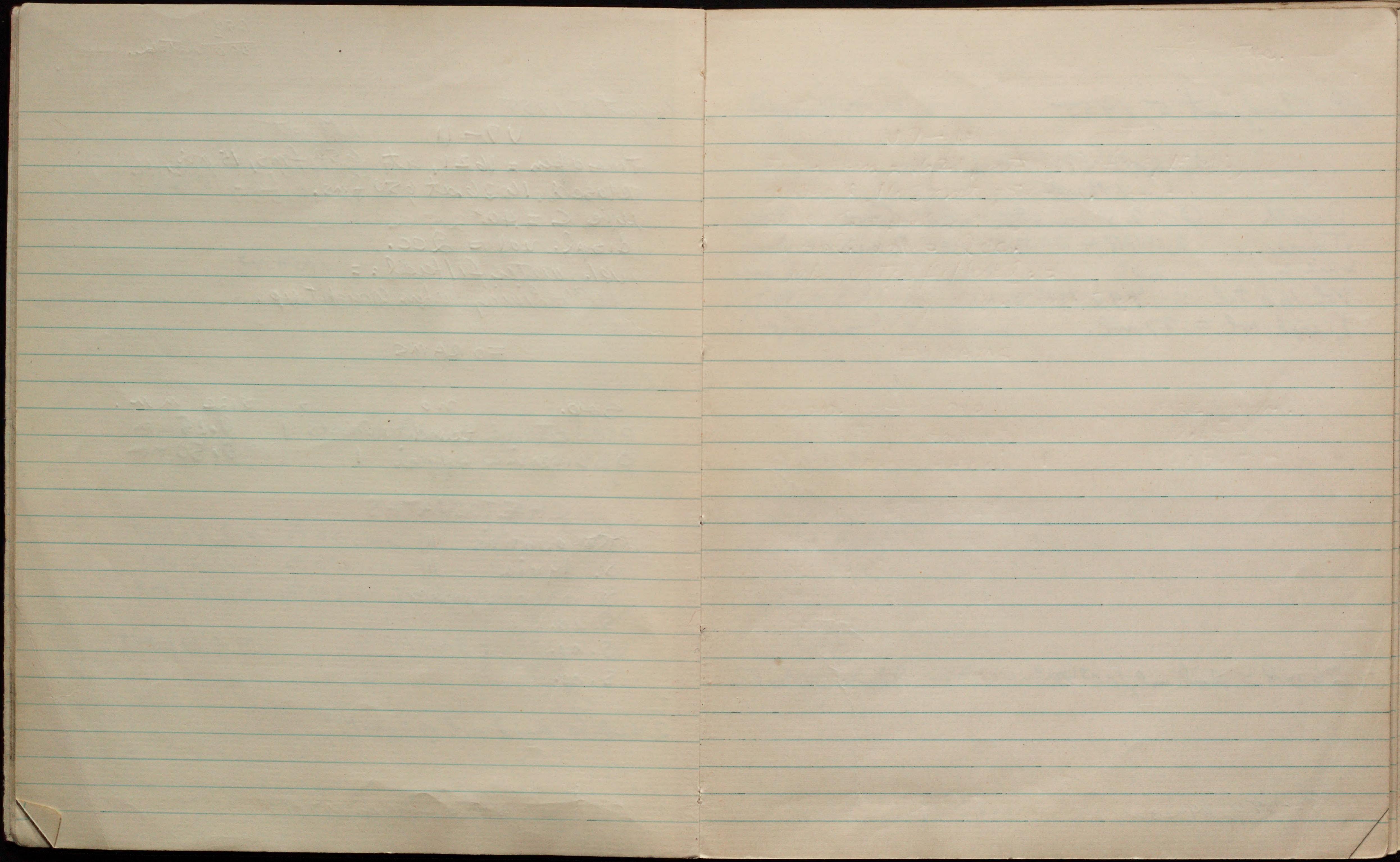
S. sp. ?

S. sp. ?

$\left. \right\} 3 \text{ in } 100\% = 3/10^3 \text{ ml}^3$

2 ml. = displ. vol. of 1000 ml^3

protozoans V7-1



8 August 5, 1955

Sample RV7-1
1 M net

Depth 0-25 meter net tow
Time 0048-0055 = 7 min.
Wind 20°
Vol. H₂O fil. = 490 M³
Displ. vol. = 37 ml.

$$76 \text{ ml.} = \text{displ. vol.} / 10^3 \text{ M}^3$$

32°-39'N, 64°-23'W

August 5, 1955

Sample RV7-2
1 M net

Depth 12-50 M
Time 0140-0146 = 6 min.
Wind 20°
Vol. H₂O fil. = 420 M³
Displ. vol. = 2 ml.

$$5 \text{ ml.} = \text{displ. vol.} / 10^3 \text{ M}^3$$

proto ... - V7-1

August 5, 1955

sample RV7-3

1 M. net

Depth

25-50 M

Time

0202-0213 = 11 min.

Wire angle

20°

Vol. H₂O fil. = 770 M³

Displ. vol. = 8 ml.

10 ml. = displ. vol / $10^3 M^3$

red zone on V7-1

August 5, 1955

sample RV7-4

1 m. net

Depth

200-400 M

Time

0220-0245 = 25 min.

Wire angle

22°

Vol. H₂O fil. = 25.1750 M³

Displ. vol. = 1 ml.

0.5 ml. = displ. vol / $10^3 M^3$

bottom V7-1 m.s.s.

August 5, 1955

~~Sample RV7-5
1 M net~~

Depth 2000-3000 M
Time 0337-0447 (net in 0300 out ?) = 70 min.
Wire L 25°

August 5, 1955

Sample RV7-5
1 M net

Depth 0-320 M (450 m w.o.)
Time 0617-0650 = 33 min.
Wire L 40°
Net at 31322
in 26076
5246

Vol. water filtered = $2300 \text{ M}^3 \times \frac{2300 \text{ M}^3}{33 \text{ min}} = 70 \text{ M}^3/\text{minute}$
Desigl. vol. sample full of organisms

Note: Net fouled around wire due to too rapid descent of net. No sample obtained. Actual amount of wire out was 900-1400 fathoms due to slippage of meter wheel.

Waybreak about 0430

Parton same as V7-1

August 5, 1955

Sample VR 7-6
 $\frac{1}{2}$ Mnet

Depth 0 -
Time 0911
Vol. H₂O filtered
Dissol. Vol.

See party log for samples

VR 7-7 - VR 7-11

Vertical tow from bottom to surface on the piston corer.

position no. 174

SERIAL NO. 1554

August 7, 1955

(V7-137A for 127)

Sample VR7-12
 $\frac{1}{2}$ m net

(Sunday)

Depth 0-300M

Time 1613-162436

Wrie L 55°, 50°, 50°, 50°

Vol. H₂O filtered

Airpl. vol.: 8ml cc.

23 min.

August 8, 1955

Sample VR7-13
 $\frac{1}{2}$ m net

Depth 0-300M

Time 0649 - 0710 = 21 mins

Wrie L 65°@ 0649, 65°@ 0653, 60°@ 0657 (250 fathm. o.,
60°@ 0659, 55°@ 0702, 50°@ 0703, 35°@ 0707.

Vol. H₂O filtered

Airpl. vol.: 10 ml cc.

60-14w, 34-10N

35-14w, 59-30w

SERIAL NO. 1555

(Monday)

August 8, 1955-

Miscellaneous Notes

We have been in sargasso weed ever since the first station. Usually the clumps are about one foot in diameter and very patchy in their distribution (anywhere from 100 to several hundred yards apart usually). McKenzie reported seeing red-billed tropic birds our first day out. Flying fish common the first 2 days, less common since.

At the first station there were many blue-grey trigger fish from 4-8 inches long swimming about the sargasso weed.

August 8, 1955-

Sample V7-14
1/2 H net

Depth 0-300 m
Time 1822-1853 31 min.
Wine L 20°, 1823-40°, 1825-40°, 1835-45°, 1837-40°,
1839-40°, 1846-40°.

Vol. H₂O filtered: 72 ml
Depth vol: 12 ml sec.

35-20N, 58-23W
22 27 0

SERIAL

1557
1557

August 9, 1955

Sample V7-15
Y₂ M net (BT mesh)

Depth 0-700M

Time 1638-1707 down 1649 = 29 min.

Wind 50°, 55-1641, 60-1642, 62-1644

Vol. H₂O flt:

Dry vol: 10 ML

35-07 N, 57-38 W

SERIAL

NO. 1558

August 9, 1955

Sample V7-16
Y₂ M net (BT mesh)

Depth 0-150M

Time 1707-1721 down 1712 = 14 min.

Wind 55°

Vol. H₂O flt:

Dry vol: 6 ml cc.

35-11 N, 57-36 W

SERIAL NO. 1559

August 10, 1955

Sample V7-17
 $\frac{1}{2}$ M net

De Depth 0 - 530m

T June 0612 - 0635 down 0625 = 23 min.

W Wind: $55^\circ, 60^\circ, 62^\circ, 60^\circ, 65^\circ$; down $58^\circ, 55^\circ, 55^\circ$

Vol. Hg filtered

De Depth. vol:

35-20N, 57-50W

August 10, 1955

Sample V7-18
 $\frac{1}{2}$ M net

Depth 0 - 1700 feet

T June 1345 - 1357 = 12 min.

W Wind $25^\circ, 25^\circ, 45^\circ, 45^\circ, 30^\circ$ - 2 min apart

Vol. Hg filtered

De Depth. vol: 2ML

35-20N, 57-35W

SERIAL NO. 1560

Aug 10, 1955

Obtained two small samples from Clarke-Bunyan nets attached to repeating camera ^{sta 10}. Both contained small amounts of fossil pteropods as in previous camera sample (camera sta. # 9) and some plankton.

While on ^{station} ¹⁰ a single trigger fish was seen about 8" long.

We continue to see scattered small clumps (1 ft in diam or less) of sargassum.

August 11, 1955

Sample V7-19 a = 1 M net; b = $\frac{1}{2}$ M net
 $\frac{1}{2}$ M net

Depth 0-300M

Time: 1447 - 1518 = 31 mins.

Vd. H₂O filtered: 32 ml

Depth. Vol: 16 ml cu. = 51 cu. ft. = 4 cu. ft / 100² = .4 cu. ft.

1 M net

Depth: 0-300M

Time: 1452 - 1517 = 25 mins.

Wd. L: 55, 53, 55, 51, 50, 48, 45, 43, 40, 39 at nose,
40, 40, 42, 47, 52, 53, 57, 60 right

Vd. H₂O filtered: 17.5 ml

Depth. Vol: 77 ml cu. = 44 cu. ft / 100² = .44 cu. ft

56-96W, 36-32N
45 31 D

SERIAL NO. 1561

August 12, 1955

Samples V7-20 a+b
 $\frac{1}{2}$ M net

Depth: 0-300M

Time: 0635-0706 = 31 min.

Vol. H₂O filtered: 33 ml

Depth. Vol: 12 ml = 37 ml / 10^3 m^3 = 35 ml / 10^3 m^3 , 2-7 mm
1 M net

Depth: 0-300M

Time: 0640-0704 = 24 min.

Wine L: 70, 55, 65, 65, 60 at max; 52, 50, 50, 45, 50.

Vol. H₂O filtered: 175 ml

Depth. vol: 38 ml = 22 ml / 10^3 m^3

37-55' N, 59-05' W

57

02 0

SERIAL NO. 1562

August 12, 1955

Samples V7-21 a+b
 $\frac{1}{2}$ M net

Depth: 0-300M

Time: 1940-2004 = 24 min.

Vol. H₂O filtered: 34 ml

Depth. Vol: 1 ml = 5 ml / 10^3 m^3 = 4 ml / 10^3 m^3 , 2-7 mm
1 M net

Depth: 0-300M

Time: 1942-2002 = 20 min.

Wine L: 50, 50, 45, 45, 45, 43, 40 at max 34, 28, 26, 26, 34,
26, 30, 34, 40, 40, 45.

Vol. H₂O filtered: 140 ml

Depth. vol: 14 ml = 10 ml / 10^3 m^3

61-10' W, 38-12' N

11 12 0

SERIAL NO. 1563

August 12, 1955

Sample V7-22

1/2 m net

Depth: 0-1 meter, drifting on camera station #
Time: 2140-2235 = 55 min.

Depth: 1 m. - $2 \text{ ml} / 10^2 \text{ ml}^3$
3 ml.

August 13, 1955

Got a sample from each C-B net on the
camera at camera station # 12. One net too
very badly + discarded. Sampler consisted of corals, green
sponges, sediment & plankton remains, one brittle star and
a large pelecypod. One of the photographs shows
+ pelecypods very clearly. we took several gastropods &
a deep sea polychaete with a limpet attached to it.

We were all set to make a net tow at 0630
this morning as had the night over the side when the
captain came out on deck and made us stop. The
weather is fine, lots of flying fish + still some sargassum.
Yesterday morning the character of the sea changed - more
confused - and the water has been less clear since then.
Menzies reported seeing another *Paristis* yesterday.

Camera sta#12: from Roy Renshaw, March 3, 1955

Date: Aug. 12, 1955

Posit: 38-09N, 61-05W

Depth: ~~2250~~-1743-2520 fath.

Time: 2210-2353

side of sea mount.

sample V7-21

sample V7-21

SERIAL NO. 1564

August 13, 1955

Sample V7-23 arb. no note V7-24
1/2 M net (1/2 + 1/2 sample catch +
down sample dr.)

Depth: 0-300 m

Time: 1809-1848 = 39 min. (down + up)

Vol. H₂O filtered: 3193

Drypl. Vol:

10 ml.

1 M net

Depth: 0-300 m

Time: 1813-1846 = 33 min.

Wire L: 1810-15, 30, 32, 35, 37, 40, 45, 45, 49, 50, 54, 55,
69, 50, 60+down, 60, 65, 65, 55, 1832-55,

Vol. H₂O filtered: 2304

Drypl. Vol:

63-10W, 38-37N

August 13, 1955

Sample V7-24 (1/2 + 1/2 sample combined as
fine as one sample + V7-23
1/2 M net

Depth: 0-300 m

Time: 1841-1908 = 27 min.

Vol. H₂O filtered: 27 ml.

Drypl. vol: 10 ml. = 37 ml. / 10² m² = 34 ml. / 10² m², 2-7
1 M net

Depth: 0-300 m

Time: 1844-1905 = 21 min.

Wire L: 35, 35, 40, 40, 1848, 40, 38, 35, 45, 35+down, 40,
40, 40 Down at 1853 stand up at 1855

Vol. H₂O filtered: 1470 ml

Drypl. vol: 40 ml. = 26 ml. / 10³ m³

cont'd on V7-23

SERIAL NO. 1565

August 14, 1955

Dangle V7-25
1/2 Met

Depth: 0-300 m

$$\text{Time: } 0927 - 0958 = 31 \text{ min}$$

2 d. H. D. filter: 33.0

D. right. Vol.: ~~8 ml.~~ + ~~10 ml.~~ = ~~18 ml.~~ μ l. $10^3 \text{ ml}^{-1} \times 10^3 = 18 \text{ ml.}$ $\mu\text{l.} \times 10^3 \text{ ml.}^{-1}$

19 net

Depth: 0-300 m

Time: 0930 - 0956 = 26 min.

Wash L: 65-0931, 63, 60, 60, 55, 55, 52, 51, 40, 0943-20,
0944-10, 40, alpha 60. Wash out 0939 w.l. 40°.
start in at 0943, w.l. 40°.

Vil. H. Hoffsted: 190-73

$$\text{Desol. vol: } 62 \text{ ml} = 33 \text{ ml} / 10^3 \text{ M}^{-3}$$

39-53N, 64-00W.

⁶⁸ See note on next page.

August 14, 1955.

For net tow V7-25 the ship's speed was cut at 0922 and ship's speed remained at 1000. A strong current set the net under the ship during the tow even though the wind and sea were off our starboard beam. The low wire l's give on the opposite page should not be used to determine the dogleg moments because they are due to the net going under the ship. Use 40°.

Just as the ship started to reach her cruising speed, we crossed a front or convergence marked by a slick about 5 feet wide extending as far as we could see on either side of the ship (about 300 yards). In the center of the slick was a ~~to~~ solid band of sargassum weed about two feet wide. The edges of the slick were lined with foam. The bearing of the front ran from approximately $45^{\circ}T$ to $225^{\circ}T$. The surface temperature on the southwesterly side of the slick was $76.5^{\circ}F$, on the northwesterly side $75.0^{\circ}F$ - a difference of 200 yards between the two observations. A BT was taken just after we crossed the slick to the north.

Presumably the net tow was taken to the south of the slick. As the trigger weight was being brought on board, a small clump of sargassum

SERIAL NO. 1566

was sighted at a depth of about 10 meters attached to the wire and was recovered as it came up to the ship. The BT showed three marked temperature inversions.

August 14, 1955

Sample V7-26
1/2 M net

Depth : 0-300 m

Temp : $1754 - 1819 = 25$ min.

Vol. H₂O filtered: 3.3 l

Dissol. vol : 18 ml. = $60 \text{ ml} / 10^3 \text{ ml} = 55 \text{ ml} / 10^3 \text{ ml}, 2.7 \text{ ml}$

1/4 net

Depth : 0-300 m

Temp : $1758 - 1816 = 18$ min.

Wire L: 1758-50, 1759-55, 1800-60, 1801-60, 1802-55, 1804-55, 1806-55 Max.

depth, 1808-55, 1811-55, 1812-55, 1814-55, 1815-50

Vol. H₂O filtered: 1400 ml / 10^3 ml

Dissol. vol : 76 = $54 \text{ ml} / 10^3 \text{ ml}$

40-6 GN ✓
63-350

SERIAL NO. 1567

August 15, 1955

Sample V7-27
1/2 m net

Depth: 0-300M

Time: 0855-0923 = 28 min.

Vol. H₂O filtered: 30 M³

Dry vol.: 12 ml. = 4 ml./10² M³ = 37 ml./10² M³, 2-7 ml.

1/4 net

Depth: 0-300M

Time: 0858-0920 = 22 min.

Mark L: 0858-58, 0902-45, 0904-40, 0906-28, 0908-50, 0911-65, 0913-78

0915-67, 0917-70, 0919-70 max 0907-38 + 0909-55.

Vol. H₂O filtered: 1600 M³

Dry vol.: 53 ml. = 33 ml./10² M³

42-53 62-67 Don

Water depth about 500 fathoms.

SERIAL NO. 1568

August 15, 1955

Sample V7-28
1/2 m net

Depth: 0-300M

Time: 1740-1806 = 26 min.

Vol. H₂O filtered: 30 M³

Dry vol.: 4 ml. = 12 ml./10² M³ = 11 ml./10² M³, 2-7 ml.

1/4 net

Depth: 0-300M

Time: 1742-1804 = 22 min.

Mark L: 1744-55, 1745-53, 1746-59, 1747-59, 1748-54, 1749-59, 1750-54, 1755-59, 1756-60, 1757-60, 1758-69, 1759-62, 1800-62, 1801-61

max. 1752-58 + 1754-58.

Vol. H₂O filtered: 1600 M³

Dry vol.: 21 ml. = 13 ml./10² M³

✓ 51 0

42-57 62-67 0

Water depth 200 fathoms

SERIAL NO. 1569

August 16, 1955

Sample V7-29 warm water fauna
1/2 M net

Depth: 0-300 m

Time: 0823-0855 = 32 min.

Vol. H2O filtered: 30 ml

Diaph. vol: 3 ml. = 10 ml./10³ m³ = 8 ml./10² m³. 2:7 -

1/4 net

Depth: 0-300 m

Time: 0827-0851 = 24 min.

Wiel: 0827-55, 0828-57, 0830-55, 0832-50, 0834-50, 0836-52,
0842-50, 0844-47, 0846-45, 0848-48, 0850-52, max. 0838-57
and 0840-52.

Vol. H2O filtered: 1700 ml

Diaph. vol: 38 ml. = 22 ml./10³ m³

SERIAL NO. 1570

August 16, 1955

Sample V7-30
1/2 M net

Depth: 0-300 m

Time: 1745-1815 = 30 min.

Vol. H2O filtered: 30 ml

Diaph. vol: 4 ml. = 12 ml./10³ m³

1/4 net

Depth: 0-300 m

Time: 1754-1812 = 18 min.

Wiel: 1745-55, 1755-65, 1757-60, 1759-60, 1801-58, 1803-59, 1805-58, 1806-
58, 1807-58, 1808-60, 1809-59, 1810-60, 1811-62, max. 1802-58 & 1804-⁵⁸

Vol. H2O filtered: see note below

Diaph. vol: 12 ml. = 9 ml./10³ m³ X 2 = 18 ml./10³ m³

43-1318-53-1520 ✓

1/2 net trawl broke and net probably did not fish most of time.

August 16, 1955

A yellow warbler flew on board this afternoon and spent about one-half hour on and about the ship. Two jaegers - probably pomarine - followed the ship this afternoon for about a half hour. A small, noisy bird also was seen - possibly a petrel. About six jaegers were about the ship yesterday afternoon. Yesterday evening (15th) Menges reported seeing a school of porpoises - about 50 in the school. Three or four came over close to the ship. He said they were dark and had white bellies but, not sharply defined in the water (not Dall's porpoise).

August 17, 1955

Sample V7-31
1/2 m net

Depth: 0-300' ^{23°} _{27°}
Time: 1751-1820 = ^{32°} _{24°} min.

Vol. H₂O filtered:

Dsgn. vol: 3 ml. = $10 \text{ ml} / 10^3 \text{ m}^3 = 7 \text{ ml.} / (10^3 \text{ m}^3) \cdot 2.7 \text{ min.}$

1 M net

Depth: 0-300' ^{20°} _{27°}
Time: 1753-1823 = 30 min.

Wine L: 1753-50, 1753-50, 1756-50, 1753-49, 1754-42, 1800-46, 1802-48,
1804-45, 1805-45, 1806-45, 1807-44, 1808-42, 1809-38, 1810-36, 1812-35,
1813-36, 1814-37, 1815-38, 1816-37, 1817-40, 1818-41 at max depth
1806-1808

Vol. H₂O filtered: 210° M²

Dsgn. vol: 66 ml. = $32 \text{ ml.} / 10^3 \text{ m}^3$

42-600 ¹⁷
Floating Furnari sighted

August 18, 1955

Sample V7-32
14 net

Depth: 0-300M

Time: 0854 - ~~0854~~⁰⁹²⁴ = 30 min.

Vol. H2O filtered:

Design. vol.: 12 ml. = 40 ml / $10^2 M^3$ = 3.8 ml. / $10^3 M^3$, 2.7 mm.

14 net

Depth: 0-300M

Time: 0857 - ~~0857~~⁰⁹¹⁷ = 22 min.

Wink: 0857-65, 0858-66, 0859-67, 0900-61, 0901-60, 0902-59, 0903-59,
0904-60, 0905-60, 0906-60, 0907-60, 0908-59, 0909-58, 0910-58,
0911-58, 0912-60 Biéri, 0913-59, 0914-59, 0915-55 Menzies, 0916-59
0917-58. non depth at 0909-0911.

Vol. H2O filtered: 1606 ml

Design. vol.: 32 ml. = 20 ml. / $10^3 M^3$

42-210, 52-711 5 ✓

August 18, 1955

Sun came out during the morning not too far the first time in two days. This afternoon we had about two hours of a warm to cool rain.

Crossed from steel grey to blue water between BT# V7-622 + V7-623. at 623 saw a small patch of eelgrass weed (1330). Late (1630) passed several more clumps & we brought a board for scanning. The boundary between grey and blue water is broken or intermittent.

During the evening two (next page) about 20 petrels (with white rump) were flying about the stern of the ship.

SERIAL NO. 1656

August 18, 1955

Sample V7-33
4₂ Mnet

Depth: 0-300M

Time: 1749-1812 = 23 min. ✓

Vol. H₂O filtered: 27 M³

Dryl. vol.: 18 ml. = 67 ml./10² M³ = 62 ml./10² M³, 2-7 ml.

107 net

Depth: 0-300M

Time: 1751-1810 = 19 min.

Wet L: 1757-68, 1752-62, 1753-60, 1754-60, 1755-58, 1756-55, 1757-55,
1758-55, 1759-55, 1800-55, 1801-55, 1802-55, 1803-55, 1804-55, 1805-55
1807-55, 1808-60, 1809-63, max 1757 & 1800.

Vol. H₂O filtered:

Dryl. vol.: 64 ml. = 46 ml./10³ M³

SERIAL NO. 1657

August 19, 1955

Sample V7-34
4₂ Mnet

Depth: 0-300M

Time: 0848-0919 = 31 min. ✓

Vol. H₂O filtered:

Dryl. vol.: 10 ml. = 33 ml./10² M³ = 31 ml./10² M³, 2-2 ml.

107 net

Depth: 0-300M

Time: 0850-0917 = 27 min.

Wet L: 0851-63, 0852-55, 0853-57, 0854-55, 0855-53, 0856-50, 0857-41,
0858-41, 0859-40, 0900-40, 0901-40, 0902-42, 0903-44, 0905-44,
0906-42, 0907-45, 0908-40, 0909-40, 0910-38, 0911-35, 0912-30,
0912_{1/2}-23, 0913-14, 0914-27, 0915-40, 0915_{1/2}-56, 0916-64.

Vol. H₂O filtered: 1433 ml. (max 0902-44 + 0904-44)

Dryl. vol.: 36 ml. = 19 ml./10³ M³

SERIAL NO. 1573

August 19, 1955

We are still heading towards the Azores on 110° T. The sky is overcast this morning with a continuous light drizzle. The water appeared steel grey at the morning net tow, but patches of Sargassum were seen occasionally. There was no wind and little sea during the tow; so the captain steered in a circle - could not control the wind angle.

1700 - sighted a flight of flying fish - about 10 fish for first time since leaving the north. Sun has just come out & water is getting much warmer. Sargassum is quite common now.

August 19, 1955

Sample V7-35
 $\frac{1}{2}$ M net

Depth: 0-300 m

Time: 1752-1815 = 23 min.

Vl. H₂O filtered:

Weight vol: 5 ml. = 20 ml / 10^2 m² = 18 ml / 10^2 m², 20.7%

1M net

Depth: 0-300 m

Time: 1754-1812 = 18 min.

Weight: 1754-57, 1756-55, 1757-50, 1758-50, 1759-50, 1800-57, 1801-57, 1802-57, 1803-57, 1804-55, 1805-57, 1806-57, 1807-55, 1808-57, 1809-57, 1810-60, 1811-60, 1812-60; max. 1801-1803.

Vl. H₂O filtered: 1000 ml²

Weight vol: 32 ml. = 23 ml. / 10^2 m²

SERIAL NO. 1574

August 20, 1955

Sample V7-36
 $\frac{1}{2}$ M net

Depth: 0-300 M

Time: 0836-0906 = 30 min.

Vol. H₂O filtered: 80 M³

Dipsl. Vol: 6 ml. = 1 ml. / 10² M³, 2.7 m.

1 M net

Depth: 0-300 M

Time: 0838-0904 = 26 min.

Wne L: 0849-30, 0840-35, 0841-38, 0842-38, 0843-35, 0844-36, 0845-37,
0846-38, 0848-36, 0849-35, 0850-33, 0851-32, 0852-32, 0853-32,
0854-35, 0855-31, 0856-30, 0857-29, 0858-30, 0859-32, 0900-34
0903-40, max 0850-0852.

Vol. H₂O filtered: 185 M³

Dipsl. vol: 43 ml. = 24 ml. / 10³ M³

40-17 N, 48-54 W D

SERIAL NO. 1575-

August 20, 1955

Sample V7-37
 $\frac{1}{2}$ M net

Depth: 0-300 M

Time: 1749-1821 = 32 min.

Vol. H₂O filtered: = 35 M³

Dipsl. Vol: 17 ml. = 5 ml. / 10² M³ = 45 ml. / 10³ M³, 2.7 m.

1 M net

Depth: 0-300 M

Time: 1751-1817 = 26 min.

Wne L: 1751-65, 1752-67, 1754-65, 1755-69, 1758-69, 1800-60, 1802-60,
1804-60, 1806-60, 1808-57, 1810-55, 1812-56, 1814-62, 1816-70.
max. 1803-58 + 1805-60.

Vol. H₂O filtered: 1800 M³

Dipsl. vol: 89 ml. = 50 ml. / 10³ M³

39-06 N, 48-38.5 W D

This tow was started just as the sun was setting and we
hit the scattering layer as it came up. At 1804 S.L. depth was
140 meters, at 1810 - 100 M.

SERIAL NO. 1576

August 21, 1955

This morning's net tow was cancelled by the captain who said he was running south to avoid a gale to the north. Said we might be able to make one in the afternoon. The one of the stayside has been hoisted and seems to be steadyizing the ship although it is not sheeted in hard enough to keep it full at all times. There is a stiff breeze blowing, but seas are very mild as it is good net tow weather.

Yesterday early in the afternoon we set through several violent showers of sargassum and I saw one this morning.

The evening's tow was also cancelled by the Capt. but weather not that bad.

August 22, 1955

Sample V7-38
1/2 M net

Depth: 0-300M

Time: 0841-0914 = 33 min.

Vol. water filtered: 30 M³

Depth. vol: 10 ml. = 32 ml / 10³ M³ = 31 ml / 10³ M³ . 20 min.

1M net

Depth: 0-300M

Time: 0844-0911 = 27 min.

Vol. L: 0844-50, 0845-48, 0846-49, 0846.5-33, 0846.75-39, 0846.80-21,
0847-18, 0848-18, 0848.5-22, 0849-27, 0849.5-30, 0850-32,
0850.25-42, 0850.5-47, 0850.75-52, 0851-53, 0852-53, 0854-52, 0855-
52, 0856-51, 0857-50, 0858-50, 0859-48, 0900-46, 0901-40, 0902-
41, 0902.5-42, 0903-45, 0905-51, 0906-52, 0907-59, 0907.5-69,
0908-63, 0909-67, 0910-72. max. 0856.5-51, 0858.5-49,

Vol. H₂O filtered: 1900 M³

Depth. vol: 33 ml. = 17 ml. / 10³ M³

34-45°N, 50-14°W to 74-84°N, 50-74°W D

SERIAL NO. 1577.

August 22, 1955

Sample U7-39
 $\frac{1}{2}$ M net

Depth: 0-300 m

Time: 1740-1811 = 31 min.

Vol. H₂O filtered: 30 m³

Dipol. vol.: 10 ml. = 33 ml / 10³ m³ = 30 ml / 10³ m³, 2.7 m

1 M net

Depth: 0-300 m

Time: 1743-1809 = 26 min.

Ward L: 1743-60, 1744-64, 1745-68, 1746-65, 1747-62, 1748-60, 1749-62
1750-60, 1752-60, 1753-60, 1755-55, 1758-52, 1759-52, 1800-49
1801-45, 1802-42, 1803-42, 1804-42, 1805-41, 1806-42, 1807-46,
1808-55 mostl. 1754-56, 1756-53.

Vol. H₂O filtered: 1800.43

Dipol. vol.: 48 ml. = 27 ml / 10³ m³

August 23, 1955

Sample U7-40
 $\frac{1}{2}$ M net

Depth: 0-300 m

Time: 0846-0917 = 31 min.

Vol. H₂O filtered: 30 m³

Dipol. vol.: 6 ml. = 20 ml / 10³ m³ = 18 ml / 10³ m³, 2.7 m

1 M net

Depth: 0-300 m

Time: 0849-0915 = 26 min.

Ward L: 0849-50, 0850-49, 0851-47, 0852-45, 0853-45, 0853.5-42, 0854-
42, 0855-42, 0856-43, 0857-42, 0858-49, 0859-49, 0900-50, 0901.5-
48, 0902-45, 0902.5-40, 0903.5-37, 0904-34, 0905-31, 0905.5-
28, 0906-28, 0906.5-27, 0907-28, 0908-36, 0908.5-42, 0909-
45, 0909.5-43, 0910-52, 0911-58, 0912-54, 0912.5-61,
0913-65, 0913.5-66, 0914-69, 0914.5-70.

Vol. H₂O filtered: 1800.43

Dipol. vol.: 32 ml. = 18 ml / 10³ m³

39-18N, 51-22W to 24-18N, 51-23W

33-15N, 53-37W, to 27-14N, 53-38W D.

SERIAL NO. 1578

August 23, 1953

Sample V7-41
1/2 M net

Depth: 0-300m

Time: 1745-1808 = 23 min.

Vol. H₂O filtered: 27 M³

Dry vol: 10 ml.

1 M net

Depth: 0-300m

Time: 1746-1805 = 19 min

WNL: 1746-69, 1748-60, 1749-60, 1750-60, 1751-60, 1752-60, 1753-58,
1754-57, 1755-57, 1756-58, 1757-54, 1758.5-57, 1759-60, 1800-61,
1802-62, 1804-64, 1805-64, 1806-45. max. 1754-1756.

Vol. H₂O filtered: 1300 M³

Dry vol: 31 ml.

32-53 m, 85-200 m

August 24, 1953

Sample V7-42
1/2 M net

Depth: 0-300m

Time: 0835-0904 = 29 min.

Vol. H₂O filtered: 29 M³

Dry vol: 1 ml.

1 M net

Depth: 0-300m

Time: 0837-0901 = 24 min.

WNL: 0837-70, 0838-68, 0839-65, 0840-60, 0840.5-53, 0841-59, 0842-
43, 0842.5-40, 0843-40, 0844-37, 0844.5-32, 0845-30, 0845.5-
27, 0846-26, 0846.5-27, 0847.5-34, 0848-36, 0848.5-40,
0849.5-44, 0850-45, 0851-46, 0851.5-45, 0852-48, 0853-50,
0853.5-51, 0853-53, 0856-53, 0856.5-53, 0857-54, 0858-
56, 0858.5-55, 0859-55, 0859.5-57, 0860-57, max. 0847-31, 0847-42

Vol. H₂O filtered: 1600

Dry vol: 22 ml. large (1 ml), 12 ml. (1 ml), 12 ml. small (1 ml)

32-53 m, 85-200 m

SERIAL NO: 1579

August 24, 1955

Sample V7-43
1/2 M net

Depth: 0-300M

Time: 1752-1828 = 36 min.

Vol. H₂O filtered: 37 M³

Depth. vol: 12 ml small org.

26 ml dry = salps, 1 amphipod, + 1 squid

1 M net

Depth: 0-300M

Time: 1756-1824 = 28 min.

Part C: 1756-65, 1758-65, 1800-65, 1802-67, 1804-67, 1806-65, 1807-61,
1808-57, 1809-57, 1811-58, 1814-60, 1816-60, 1818-63, 1820-63,
max. 1808-58, 1810-58.

Vol. H₂O filtered: 2100

Depth. vol: 10 ml. large org. (salps, 1 fish, + 1 squid).
55 ml. small org.

32-30 N, 63-55 W

Not one opened below the surface, did not close a surface
when hauled up.

August 25, 1955

Sample V7-44
1/2 M net

Depth: 0-300M

Time: 0845-0923 = 38 min.

Vol. H₂O filtered: 38 M³

Depth. vol: 6 ml (large Ceranaria not included).

1 M net

Depth: 0-300M

Time: 0851-0918(2nd m.s.r.) = 27 min.

Part C: 0852-50, 0854-50, 0855-50, 0858-49, 0859-49, 0859-50,
0900-48, 0902-47, 0903-45, 0905-43, 0907-42, 0908-41, 0908.5-40,
0909-42, 0910-41, 0911-41, 0912-42, 0913-41, 0914-44, 0915-45,
0916-47, 0917 1/2-46. max. 0904-44, 0906-41.

Vol. H₂O filtered: 1800

Depth. vol: 32 ml. small org.
10 ml. dry org. (salps + 1 squid).

32-30 N, 64-30 W.

Steaming in a straight line. 2nd m.s.r. release went off
at surface when 1st m.s.r. was set down. Net was hauled in and
reset so as to simulate correct operation of 1st m.s.r. 2nd m.s.r.
closed net at. at end of tow (below the surface).

August 25, 1955

Noted the first red-billed tropic bird we have seen
in some days (since last noted in this log) this
afternoon at 12:15.

August 25, 1955

Sample V7-45
 $\frac{1}{2}$ m net

Depth: 0-300m

Tensile: 1756-1835 = 39

Vol. H₂O filtered: 39 M³

Displ. Vol.: 10 mL

1 M net

Depth: 0-300m

Tensile: 1802-¹⁸³⁰~~1830~~ did not open but to pull balls. 28

Wire L: 1802-50, 1804-50, 1808-50, 1806-53, 1807-55, 1808-55, 1811-53,
1814-50, 1815-50, 1817-50, 1818-53, 1819-54, 1820-53, 1821-54, 1821-55,
1822-53, 1824-53, 1825-55, 1826-50, 1828-57. max 18^{1/2} - 1814.

Vol. H₂O filtered: 1900 M³

Depth vol: 38m

at start wire L too great and net did not open on first
wsogr. Net hauled back up and triggered to simulate correct ws.
wsogr operation. Net then sat down

Pz i - no. 2746

SERIAL NO. 1580

SERIAL NO. 1581

August 26, 1955

Dangle V7-46
1/2 M net

Depth: 0-300m

$$\text{Time: } 0200 - 0249 = 49 \text{ min}$$

Vol. H₂O filteral: 49 M³

Digital vol: 12 ML
rec

North: 0-300m / Mnet

Aug. 0-300M

$$\text{Time: } 0208 - 0242 = 34 \text{ min.}$$

Wile C: 0211-27, 0211.5-28, 0212-32, 0212.5-35, 0213-39, 0213.5-43, 0213.5-47,
0214-44, 0214.5-46, 0215-47, 0215.5-52, 0216-51, 0217-54, 0218-55, 0219-
56, 0220-58, 0221-59, 0222-69, 0223-59 max depth, 0224-59, 0225-57, 0226-58,
0227-55, 0228-55, 0229-55, 0230-55, 0231-56, 0232-56, 0233-56, 0234-58, 0235-
57, 0236-54, 0237-52, 0238-54, 0239-53, 0240-53

Stopped 0233 to ⁰²³⁷~~5200~~? because wire too close & shags

Vol H₂O filtered; 2300

Dip N.Y. 48ML

August 26, 1855

Sample v7-47 (No closing-opening
= oblique row)
1/2 mm

Depth: 250-500 feet west. Max Depth = 450 m.

Tempi appross 0250 - 0315 = 85 min

Vgl. Hroßfeld: 85 m

Diegel vol: 8ML

32° 30' N, 64° 30' W

114 net

net lost due to weak spring or closing pin of release.

Wine L: ~~02~~-~~29~~, 0258-55, 0259-48, 0260-44, 0301-40, 0305-37, 0302-
32, 0302.5-27, 0303-22, 0304-20, 0304.5-24, 0305-24, 0306-38, 0306.5-44,
0307-47, 0308-45, 0209-48, 0310-46, 0312-42, 0313-45, 0314-40, 0314-38,
0315-30, 0315-26, 0315-22, 0316-19, 0316-22, 0317-30, 0317-25, 0315-39,
0319-40, ~~0320-42~~, 0321-41, 0322-38, 0321.5-35, 0322.5-58, 0323.5-24, 0324-18,
~~under ship~~
0324.5-09, 0325-08, 0325.5-24, 0327-45, 0329-50, 0330-40, 0331-30,
0332-25, 0333-22, 0333.5-30, 0334-38, 0334.5-42, 0334.75-48, 0335-51,
0335.25-55, 0335.5-57, 0326-62, 0337-65, 0337.25-69, 0337.5-71, 0338-
72, 0339-71, 0340-71, 0340.5-72, 0341-74, 0341.5-73, 0342.5-69, 0343-
68, 0344-65, 0345-62, 0345.5-61, 0346-58, 0347-58, 0347.5-58, 0348-
55, 0349-53, 0350-53, 0351-53, 0352-52, 0354-49, 0355-47, ~~260 deg from~~ 35° full
out at 0359. 0358-50, 0357-47, 0358-46, 0359-46, 0400-45, 0401-46, 0403-
46, 0404-40, 0405-40, 0406-40, 0407-42, 0408-41, 0409-44, 0410-45, 0411-42,

0405-84, 0412-50, 0413-50, 0414-52, 0415-43, 0416-46, 0417-43, 0418-46
max at 0326 w 139, left end. 0228-46, reached 250 fath at 04 42
started back down at 0348, reached 350 fath out at 0351.

August 26, 1955

During the deep BT cast three sharks circled about the ship for over an hour. All appeared to be the same species - one about 8 feet long was hooked and hauled half-way into the net ~~line~~ by Craigie and myself before the line was cut by the shark's teeth. The other two were smaller - about 5 feet. One had 3 pilot fish, one had 2 and one had one.

The one with 2 pilot fish also had a small Remora attached to the dorsal side of the left pectoral fin. All the sharks had white tipped dorsal and pectoral fins and a black spot ~~above~~ ^{below} each dorsal and ventral on the caudal peduncle. They were very heavy through the head region.

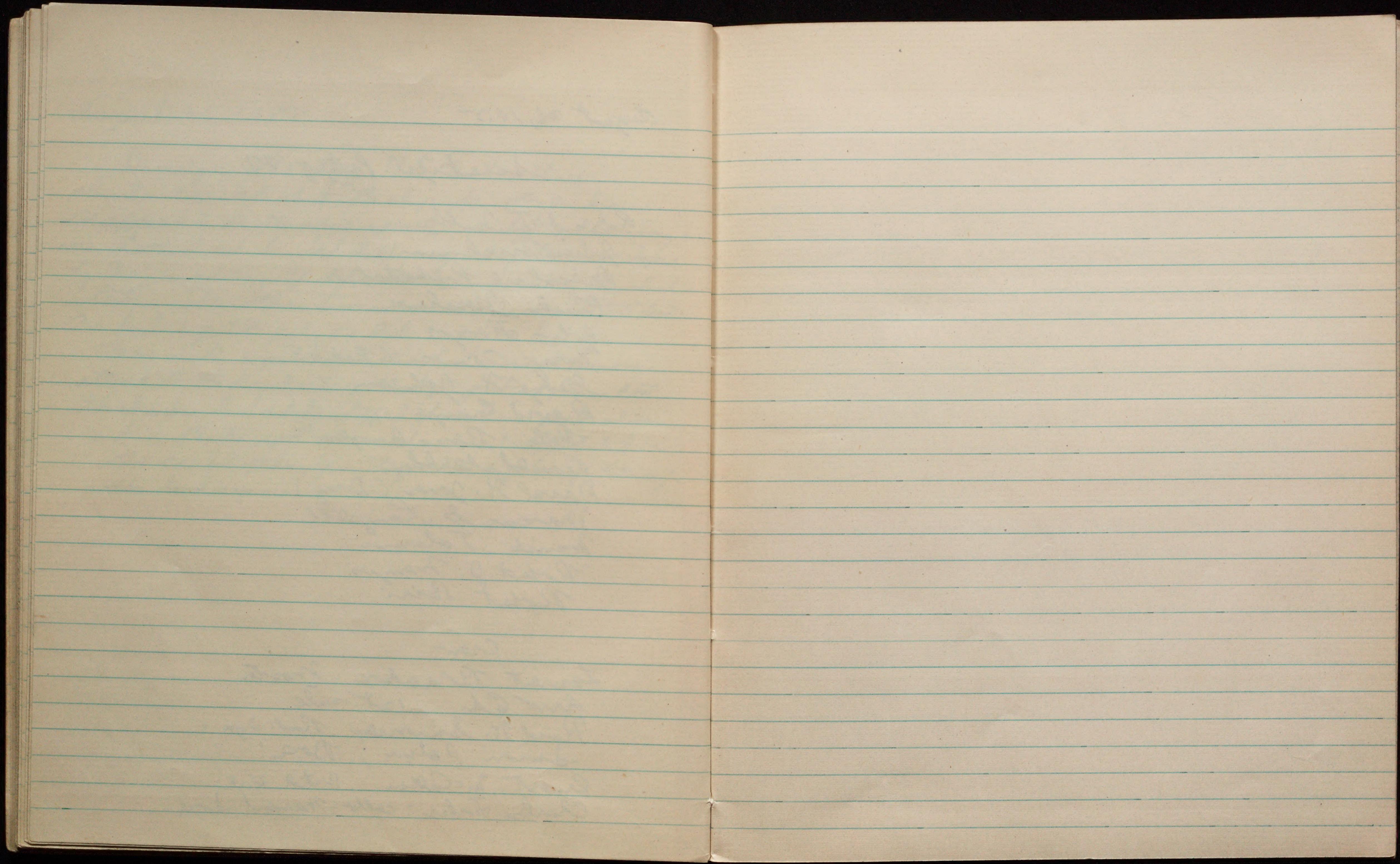
August 26, 1955

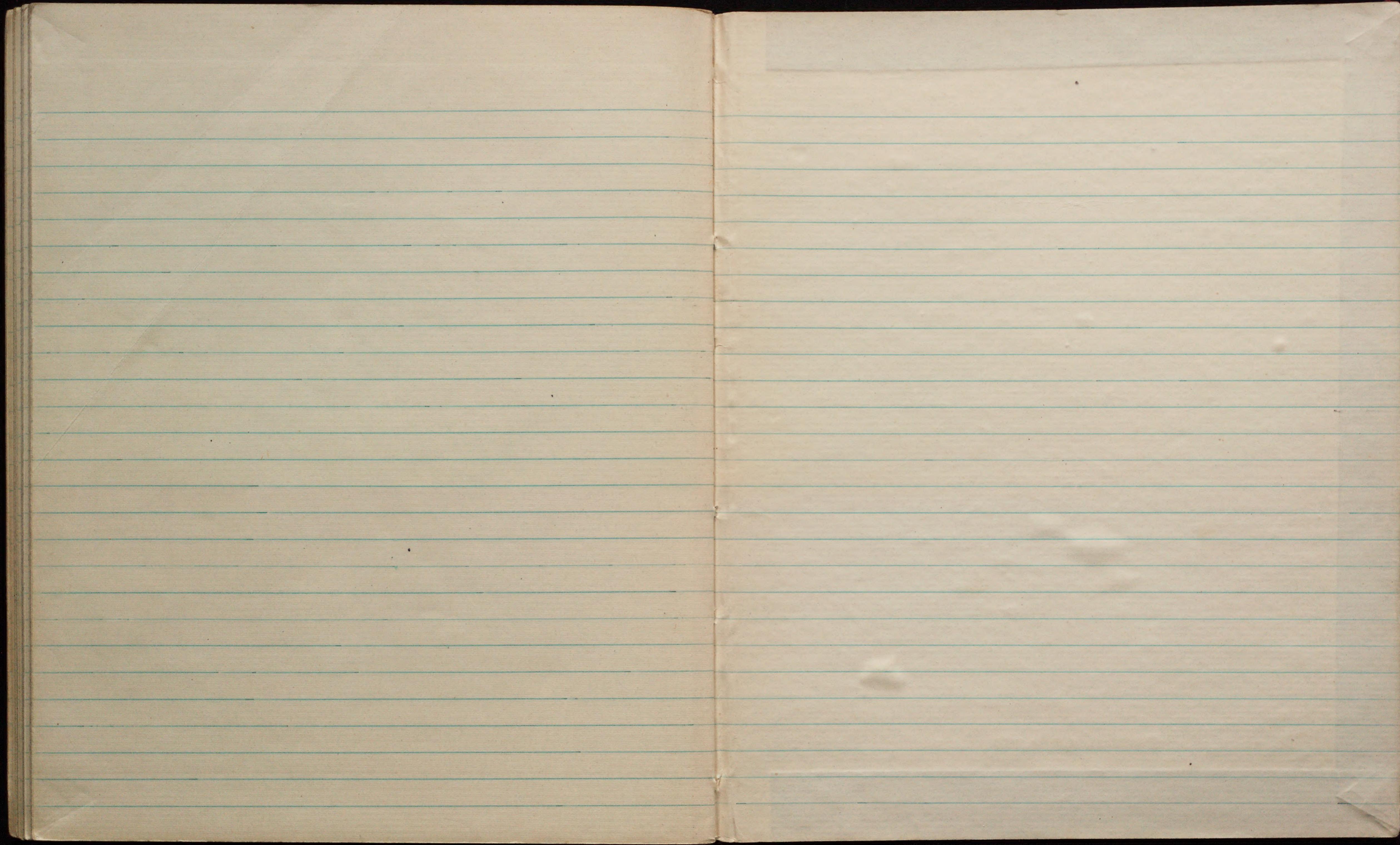
Sacrifice Party of V7.

Edward T. Miller
Julius Kirshman
Nicolai Pukatch
Charles Kershaw
John Frazee
Kerry O'neir (Red)
George H. Johnson
David Craigie
Peter Buckenger
Donald Gibbon
Daniel R. Jones (Ding)
Marcus G. Langseth
Manis Talavasi
Robert J. Mangini
Robert Biasi

Crew

Lamont Brackx Masta
Anno Ch 1st mate
Paul H. Simonian Rad. Opn.
Simon Potvin; Boats
Ernest McCaldon Britch D.S.
Charles Foster - cello - Harvard Corp.





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